I N S E C T P E S T S U R V E Y B U L L E T I N

Vol. 14 October 1, 1934 No. 8

THE MORE IMPORTANT RECORDS FOR SEPTEMBER 1934

Wireworm damage, particularly to potatoes, was reported from Wisconsin, North Dakota, Missouri, and South Carolina.

In this number of the survey bulletin a detailed report is given on the abundance of the hessian fly throughout the United States. In general this insect is at a low ebb in the main winter-wheat regions.

Chinch bugs were moving into winter quarters in large numbers throughout the eastern part of their range. An unusual condition is reported in the finding of large populations of these insects in Vermont during the latter part of August.

The corn ear worm was reported as occurring generally from the Gulf region to Minnesota and from the Atlantic to Utah. In Missouri it is said to be more prevalent than at any time during the past 30 years. In Colorado corn-ear infestation was said to be as high as 100 percent. Throughout the greater part of the country the ear worm was doing serious damage.

The fall armyworm was destructively abundant in the Gulf region from Georgia to Texas.

The codling moth was unusually abundant and destructive in the Ohio River Valley and in the Pacific Northwest.

The Mexican bean beetle was reported for the first time from Orange and Windsor Counties, Vermont, and from Webster County, Mississippi. Damage has been general and serious throughout its previous range.

The pea moth (Laspeyresia nigricana Steph.) has been discovered in the State of Washington, where it occasioned considerable loss in two counties to growers who were raising peas for canning.

The pickle worm again appeared in Connecticut this year. This is its second appearance in the past 34 years.

Heavy damage to sugar beets by the greenhouse leaf tier was reported from Orange County, Calif. The sugar content of the beets in infested fields is so low as to render them hardly worth harvesting.

The satin moth was reported as occurring in Oregon, in the Willamette Valley. This is the first record of the occurrence of this insect in that State.

One of the elm leaf aphids, Tuberculatus ulmifolii Monell, was present in outbreak numbers in Iowa and Nebraska.

Very heavy infestations of crickets in houses located in the vicinity of public dumps were reported from Maine, Massachusetts, and Wisconsin. In the Massachusetts infestation the insects were so numerous as to force the tenants to leave the houses.

The screw worm infestation in the Gulf region, from Florida to Texas, has developed to serious proportions and control campaigns are under way over a large part of the territory.

THE MORE IMPORTANT RECORDS IN CANADA FOR AUGUST AND SEPTEMBER 1934

Grasshopper migration flights were practically over in Saskatchewan by the beginning of August. The recorded flights this year were fewer, smaller, and less far-reaching than in 1933. In general, grasshoppers were notably less abundant than during the same period last year. Damage to maturing crops over the infested area, although serious, was materially lighter than in 1933. As drought and high temperatures were extremely favorable to the pest, this definite decrease in the autumn infestation is attributed to the general success of the control campaign. In Manitoba and Alberta warm weather early in August increased grasshopper damage and flights, and oats and barley in certain sections were injured considerably. Later in the month this damage was checked by cool weather. Since the middle of August grasshopper activities have been largely confined to egg laying. Throughout British Columbia where grasshoppers have not been abundant for some years, there are evidences of a general increase that may have serious consequences in interior valleys in 1935.

First-year white grubs are abundant in southern and central Quebec, especially in old sod, with grubs exceeding 500 per square yard in places.

Reports from Quebec, Ontario, and Manitoba indicate that infestation by the Colorado potato beetle is about normal.

In southern Ontario the European corn borer infestation is materially less than in 1933 and damage, in general, is slight. It is probable that thorough clean-up measures in the spring and an increased corn acreage are responsible for the decreases noted.

Adult moths of the corn ear worm have been reported as far more abundant than for several years at points in southern Ontario and southern Quebec. Heavy infestations of the larvae also were noted in sections of these Provinces and in southern Manitoba, and light to moderate local infestations in Saskatchewan and Alberta.

Heavy local outbreaks of aphids occurred on cruciferous crops in southern sections of Ontario, Alberta, and Vancouver Island, British Columbia. Aphids of several species have been extremely abundant on many kinds of plants in the Prairie Provinces. Infestation and damage varied considerably. The apple aphid has caused damage in apple orchards in certain sections of Eastern Canada and in British Columbia.

Some losses to wheat were caused by the wheat stem sawfly in sections of the Prairie Provinces. In Saskatchewan these losses apparently were somewhat larger than average, particularly in heavy soils of drier areas. In the Red River Valley, Manitoba, the wheat stem maggot caused losses ranging from 5 to 15 percent.

A very general infestation of the common red spider mite in southern Alberta resulted in considerable damage to shade trees, garden truck, and bush fruits. This species was a serious pest of small fruits in Ontario and locally in Manitoba. The spruce mite was again very prevalent throughout the Prairie Provinces. Mites of several species were troublesome pests of apple, plum, and pear in parts of the orchard areas of Ontario and British Columbia.

There has been a general increase in the codling moth infestation in Ontario and southern Quebec. The species was exceptionally abundant in the warmer districts of Ontario, where it caused serious damage.

The gray-banded leaf roller is a serious pest in apple orchards of Nova Scotia.

The oriental fruit moth infestation in the Niagara Peninsula, Ontario, was about the same as in 1933. The species survived winter temperatures as low as 23° below zero.

Grape leafhoppers were exceptionally abundant in unsprayed or poorly sprayed vineyards in southern Ontario, where they caused much damage.

The outbreak of the European spruce sawfly continues in the Gaspe Peninsula, Quebec, and the larvae have defoliated much of the white spruce over a large area. Black spruce is less heavily infested, but defoliation of this species also is severe. The sawfly has now been found to be generally distributed in New Brunswick, but up to the present damage in this Province is not severe.

The hemlock looper has appeared in destructive numbers in parts of Nova Scotia and on Anticosti Island.

The red-headed pine sawfly is causing serious damage in many localities in Ontario and Quebec.

The satin moth has been reported in the Peace River district of British Columbia, east of Rolla.

G E N E R A L F E E D E R S

GRASSHOPPERS (Acrididae)

Michigan. R. Hutson (September 20): Grasshoppers are very abundant.

Wisconsin. E. L. Chambers (September 26): A survey of adults just completed in the northern part of the State indicates, as did the egg survey, that another outbreak of grasshoppers, even more serious than this year's, may be expected in 1935 if weather is favorable. Eggs are still being laid and all instars of nymphs are present in woodlands, cranberry bogs, and roadsides.

North Dakota. J. A. Munro (September 22): F. D. Butcher says that the grasshopper situation this month is characterized by a marked decrease in the population of Camnula pellucida Scudd. Occasional evidences of parasitization by Diptera were noticed in the field. In most areas Melanoplus mexicanus Sauss. is the predominating species. Adults of M. differentialis Thos. were observed in Mercer, Oliver, and Morton Counties on September 20 and 21.

Missouri. L. Haseman (September 24): In central Missouri red-legged grasshoppers are fairly common but are doing no damage.

Arkansas. D. Isely (September 24): Grasshoppers (M. differentialis) are very abundant.

Nebraska. M. H. Swenk (September 20): Grasshoppers are moderately abundant.

Kansas. H. R. Bryson (September 26): The grasshopper population is below normal for this time of year. M. differentialis individuals are more difficult to find at Manhattan than for several years past. A report of injury to young alfalfa during the past month was received from Ozawkie.

Colorado. G. M. List (September 20): Grasshoppers, since the closing of the poisoning campaign, are only moderately abundant.

O. G. Babcock (August 27): Grasshoppers (M. bivittatus Say) are very numerous on farms between Denver and Fort Collins and Greeley. Thousands of inland gulls are feeding on the hoppers.

Arizona. C. D. Lebert (September 19): Several fields in the Salt River Valley still have moderate infestations of hoppers, both M. mexicanus and M. differentialis. Young hoppers of the third and fourth instars are still present. Lettuce growers are applying poisoned-bran baits.

ARMYWORM (Cirphis unipuncta Haw.)

Missouri. L. Haseman (September 24): The fall brood of the regular armyworm has been doing serious damage to crops from central Missouri south to

the Arkansas line. Some complaints have come from north of the Missouri River, especially from Montgomery County.

WHITE-LINED SPHINX (Sphinx lineata Fab.)

Oklahoma. C. F. Stiles (September 24): Russian-thistles throughout the western part of Oklahoma, and especially the Panhandle area, are being attacked. The armyworms migrate across the wheat fields, defoliating the thistles, but have not damaged the wheat or any of the grass plants. On September 10 they were migrating by thousands from one field to another in Harper and Cimarron Counties.

WHITE GRUBS (Phyllophaga spp.)

Maryland. E. N. Cory (September 26): White grubs, probably P. hirticula Knoch, are very abundant in Ellicott City, where they have destroyed 50 percent of the corn.

Michigan. R. Hutson (September 20): White grubs are very abundant.

GREEN JUNE BEETLE (Cotinis nitida L.)

Indiana. J. J. Davis (October 2): Grubs were reported as abundant in and destructive to lawns at Terre Haute on August 29. During September several correspondents sent in the grub parasite Scolia dubia Say which indicates an abundance of the parasite.

Kentucky. W. A. Price (September 25): Green June beetle larvae have been very abundant in many lawns at Lexington, Winchester, and Versailles.

DESERT JUNE BEETLE (Ochrosidia villosa Burm.)

California. C. S. Morley (September 1): A serious infestation of larvae, which completely destroyed the lawns in a cemetery at Bakersfield, was observed.

JAPANESE BEETLE (Popillia japonica Newm.)

Eastern United States. C. H. Hadley (August): All sections except the extreme northern part of New Jersey are now in the area of continuous distribution. There are increases in lower Cumberland and throughout Cape May County. The area of continuous infestation in Pennsylvania is approximately indicated by such localities as Easton, Allentown, Reading, Honey Brook, Christina, and Oxford. In Delaware infestation extends across the State north of Middletown, and farther south extends west to Vandyke and Kenton and south to Woodside, Magnolia, and Bowers Beach. An increase is noted in all infested sections. In Maryland the area of continuous infestation centers at Elkton and has increased. All Staten Island and the extreme eastern part of Long Island are now included in the area of continuous infestation in New York.

ASIATIC GARDEN BEETLE (Autoserica castanea Arrow)

Eastern United States. H. C. Hallock (August): The area of distribution in Westchester County, N.Y., has shown some increase in 1934. The beetles were recorded at Valhalla this summer for the first time. They had previously been found in the northern part of the county at Ossining, Peekskill, Mount Kisco, and Amawalk. The beetles are generally distributed in Westchester County, although they are much more scattered in the northern part. However, fewer complaints of injury by the adult beetles were received from this county than in 1934, because during the season of actual flight in 1934 there were fewer hot nights than normal, resulting in less feeding in gardens. Bronx County shows little change in abundance. Kings County shows an increase throughout. Nassau County shows some increase, especially in the western half. In northeastern New Jersey the beetle shows increased abundance in the open country. Adults were found at Bound Brook, N.J., in August 1934 for the first time. Observations during the past 7 years indicate that increased losses will probably be caused should it occur farther south, provided there is sufficient rainfall for normal development of the immature stages.

WIREWORMS (Elateridae)

South Carolina. C. O. Bare (August 21): A survey of vegetable plantings at the South Carolina Truck Experiment Station at Charleston showed considerable injury by wireworms. Counts of the injured plants of each crop made on two 480-foot rows gave the following: Cucumbers, 94 out of 753, or 12 percent; cantaloups, 34 out of 1,273, or 3 percent; squash, 1 out of 723, or 0.13 percent; cabbage, 2 out of 2,950, or 0.06 percent. Four percent of the 240 cucumber hills in the two rows were destroyed.

Wisconsin. E. L. Chambers (September 26): Potatoes on low heavy soils with little drainage are being seriously injured by wireworms in Racine, Milwaukee, and Waukesha Counties, according to potato dealers.

North Dakota. J. A. Munro (September 24): A 20-acre plot of potatoes in the vicinity of Saint Thomas is reported as badly infested. In 1932 more than 30 percent of the potatoes from this plot were unmarketable, on account of wireworm injury; in 1933 from 15 to 20 percent were unmarketable; and this year wireworm injury has rendered 75 percent unfit for market.

Missouri. L. Haseman (September 24): At Columbia during the early part of September wireworms were severe on late sweet corn. Larvae are about half grown.

COMMON RED SPIDER (Tetranychus telarius L.)

Colorado. G. M. List (September 20): The dry season has favored the common red spider, which is quite injurious on a number of trees and shrubs. In some instances it has damaged such field crops as beans and corn.

California. C. S. Morley (September 1): This has been one of the worst

seasons ever experienced for red spiders, and the damage was intensified by lack of irrigation. Bakersfield has completed the spraying of 23,051 shade trees.

C E R E A L A N D F O R A G E - C R O P I N S E C T S

WHEAT

HESSIAN FLY (Phytophaga destructor Say)

General. P. N. Annand (September 18): The hessian fly is in general at a low ebb in the main winter-wheat regions. Drought has largely kept this insect in check. Areas in which scattered fields suffered more or less injury this year are southeastern Kansas, southern Missouri, east-central Indiana, middle Tennessee, northern Ohio, south-central Pennsylvania, and central North Carolina. With weather conditions favorable to the fly, moderate to severe infestations may develop this fall in these areas. In the remainder of the winter-wheat belt, comprising Nebraska, northern and middle Kansas, northern Missouri, all of Illinois, western and southeastern Indiana, southern Ohio, western, northern, and eastern Pennsylvania, Maryland, Delaware, and Virginia, there appears to be little prospect of serious general infestation this fall.

The following table gives the percentage of infestation found by the survey made at harvest time:

Area	Average infestation	Area	Average infestation
Nebraska		Indiana	
Southwest	1	Northwest	5
South-central	1	Northeast	16
Southeast	1	Central	7
		East-central	30
Kansas		Southwest	8
Northwest	1	Southeast	4
North-central	2		
South-central	1	Ohio	
Northeast	2	Northern	21
Southeast	10	Southern	9
Oklahoma		Kentucky	
North-central	1	Northwest	7
Northeast	2	Southwest	10
		North-central	7

Cont'd.

Area	Average infestation	Area	Average infestation
Missouri		Tennessee	
Southwest	14	Middle	17
West-central	11		
Northwest	2	Pennsylvania	
Southeast	21	North-central	7
East-central	10	South-central	16
		Southwest	8
Illinois		Southeast	7
N. and w. central	1		
Southeastern	8	Maryland	
Southern	1	North-central	6
		Eastern Shore	1
Michigan			
Southwest	3	Delaware	
		State	1
Virginia			
North	5	North Carolina	
East-central	6	Central	16
Southwest	11		

Ohio. T. H. Parks (September 25): Larvae and puparia are present in more than usual numbers on volunteer wheat. We look for a heavy fall emergence and infestation of early sowed wheat in the northern half of the State.

Missouri. L. Haseman (September 24): Earlier observations indicate that the heat of midsummer proved very destructive to flaxseeds.

SAY'S STINK BUG (Chlorochroa sayi Stahl)

Colorado. G. M. List (September 20): Say's stink bug has been quite numerous during much of the season. Barley and wheat were injured considerably just at filling time in the Pueblo and El Paso County sections. In Pueblo and Denver vicinities the bugs damaged truck crops and, in a few instances, sugar beets. Near Denver one gardener lost almost his entire crop of garden beets and a 3-acre field of early cabbage.

CORN

CHINCH BUG (Blissus leucopterus Say)

Vermont. H. L. Bailey (August 29): Intensive infestations were found in millet at Middlesex, in Washington County, on August 20, and at Braintree, Orange County, in corn on August 23.

Ohio. T. H. Parks (September 25): A fall survey now being conducted reveals that chinch bugs are much more abundant than last fall and late sweet corn is badly infested. Complaints are being received from counties south of the area where injury occurred in June and July.

Indiana. J. J. Davis (October 2): The chinch bug situation is serious. Recent surveys indicate a greater abundance and wider distribution than a year ago.

Illinois. W. P. Flint (September 20): The wet weather late in August and early in September has had a somewhat detrimental effect on chinch bugs. The white-fungus disease has been very abundant and has killed a considerable number of bugs. However, nearly as many bugs will go into winter quarters as did so in the fall of 1933. Many bugs are already in hibernation at Urbana.

Kentucky. W. A. Price (September 25): Chinch bugs are very abundant.

Missouri. L. Haseman (September 24): Recent observations indicate that the chinch bug is very abundant only in scattered fields. It is less abundant than we expected.

Nebraska. M. H. Swenk (September 20): The chinch bug is moderately abundant.

Kansas. H. R. Bryson (September 26): Chinch bugs are moderately abundant at Manhattan and in the eastern part of the State. The adults may be easily found in crabgrass and other wild grasses along roadsides, fence rows, and in fields. The population is below the usual number.

CORN LANTERN FLY (Peregrinus maidis Ashm.)

Mississippi. C. Lyle (September 19): Medium damage to corn was reported from Aberdeen, in Monroe County, on September 4, and specimens were sent in on September 18 from Jackson, in Hinds County, with a report that the insect was abundant on pop corn.

CORN EAR WORM (Heliothis obsoleta Fab.)

North Carolina. W. A. Thomas (September 8): Late corn following potatoes in this section (Stonewall) has been almost destroyed. Stalk, foliage, tassel, and ear have been attacked. Some of the growers are much concerned, as this is the source of grain for most of their farm animals. The growers estimate that the yield will range from nothing to 4 barrels per acre; 20 barrels per acre being about the normal yield on these lands.

South Carolina. F. Sherman (September 19): The corn ear worm is very abundant on corn but nearby tomato fruits show little if any infestation.

Ohio. T. H. Parks (September 25): The corn ear worm is very abundant on sweet and field corn. The infestation follows one of the most severe winters on record, with February temperatures dropping to 15 to 20° below zero in northern Ohio where worms are now abundant. This supports the theory that

these moths migrate long distances.

Ohio. N. F. Howard (September 22): Late sweet corn in the vicinity of Columbus is very heavily infested. Every ear examined had 1 or 2 worms on the tip, an inch or two of which had been destroyed, as well as 1 worm lower down which had entered through the husks on the side. Considering the unsightliness of the ears, it is believed that most of the corn in the fields was unmarketable. I have received report that the insect is very injurious to chrysanthemums and tomatoes in a greenhouse in the vicinity of Dayton.

Indiana. J. J. Davis (October 2): The corn ear worm is more abundant throughout the State than it has been for a number of years. It is heavily infesting corn and tomatoes. One report of abundance in soybeans was received.

Illinois. W. P. Flint (September): The corn ear worm is more abundant than it has been at any time during the past 5 years. It has very seriously damaged field corn, destroying probably 7 or 8 percent of the kernels on most of the ears. It is also feeding extensively on the foliage of late soybeans and on the pods of late beans.

Kentucky. W. A. Price (September 25): The corn ear worm continues to be very destructive to tomatoes, beans, and alfalfa.

Michigan. R. Hutson (September 20): The corn ear worm is moderately abundant.

Wisconsin. E. L. Chambers (September 26): The second and possibly a third brood of the corn ear worm attacked both sweet and field corn. This is the worst infestation ever recorded in Wisconsin. In some fields the infestation is 50 percent in field corn and even higher in sweet corn.

Minnesota. A. G. Ruggles and C. E. Mickel (September 25): The corn ear worm is very abundant on very late sweet corn in parts of the State. Adults were flying on September 7.

Missouri. L. Haseman (September 24): The corn ear worm outbreak is the worst in 30 years. Late broods are very large. Owing to shortage of corn ears the worms are turning to alfalfa and soybeans, doing serious damage to these crops over much of the State.

Nebraska. M. H. Swenk (September 20): The corn ear worm is very abundant.

Mississippi. C. Lyle and assistants (September): The corn ear worm is very abundant on corn and tomatoes in Lauderdale, Bolivar, Lowndes, and Monroe Counties.

Colorado. G. M. List (September 20): The corn ear worm has been unusually numerous in all sections where corn is grown. The infestation in most localities will be 100 percent. The first brood attacked the tassels of the early sweet corn, much of which was so seriously injured that it was cut and fed to livestock.

Utah. G. F. Knowlton (September 8): Corn ear worms are damaging from 3 to 35 percent of the tomato fruits in fields in Davis and Weber Counties. The high infestation is slowing down canning operations in factories throughout Utah.

BUMBLE FLOWER BEETLE (Euphoria inda L.)

Colorado. G. M. List (September 20): The bumble flower beetle has been reported from a number of localities as injuring corn by feeding on the tips of the ears.

ALFALFA

ALFALFA WEEVIL (Hypera postica Gyll.)

California. A. E. Michelbacher (September 22): The alfalfa weevil is rather abundant in some fields around Niles and Pleasanton. On July 23 a single dipterous internal parasite of the larva was found at Niles. No further search was made for this parasite until September 14, when weevil larvae were brought into the laboratory. About 10 percent of those large enough to spin cocoons were infested with the parasite. As yet the parasite has not been reared, although a number are leaving the parasitized larvae and are pupating.

GARDEN WEBWORM (Loxostege similalis Guen.)

Ohio. T. H. Parks (September 25): Larvae of the alfalfa webworm, together with injured alfalfa foliage, were received with the statement that they were severely injuring alfalfa in several fields in Greene County.

Indiana. J. J. Davis (October 2): The garden webworm was reported damaging alfalfa at Portland on August 24.

Illinois. W. P. Flint (September): During the latter part of August the alfalfa webworm was extremely destructive throughout the State. It has been much less abundant during September.

Missouri. L. Haseman (September 24): The late brood of the alfalfa webworm has done a good deal of damage to the last cutting of alfalfa in central Missouri. Moths are on the wing in moderate numbers.

YELLOW-STRIPED ARMYWORM (Prodenia ornithogalli Guen.)

Illinois. W. P. Flint (September): The yellow-striped armyworm has been very abundant and destructive over most of the State during the past month. The principal injury has been to newly sown alfalfa. It has also damaged soybeans and some truck crops considerably. Parasitization has been rather low.

BEAN THRIPS (Heliothrips fasciatus Perg.)

California. A. E. Michelbacher (September 22): On September 7 the bean thrips was present in countless numbers in the alfalfa fields about Vernalis. A week later they were still very abundant but much reduced in numbers. A similar condition was noted a year ago.

SOYBEANS AND VELVETBEANS

FALL ARMYWORM (Laphygma frugiperda S. and A.)

Georgia. O. I. Snapp (September 22): The fall armyworm destroyed 25 acres of soybeans at Fort Valley.

Florida. J. R. Watson (September 24): The fall armyworm stripped the cover crops from many groves in Lake and Polk Counties in the early part of the month.

Arkansas. D. Isely (September 24): An outbreak of the fall armyworm has been reported from Marion, Johnson, and Washington Counties.

Mississippi. C. Lyle (September 19): A very light infestation on pop corn was reported from Jackson, in Hinds County, on September 18.

Texas. F. L. Thomas (September 16): Millions of tiny worms streaming across the tracks were able to stall a ponderous freight train near Estelline, in Hall County. They were also very abundant at Crystal City, Zavala County.

S. E. Jones (September 7): In Crystal City fall armyworms are causing much damage to hegari.

VELVETBEAN CATERPILLAR (Anticarsia gemmatilis Hbn.)

Florida. J. R. Watson (September 24): The velvetbean caterpillar has thoroughly ragged most velvetbean fields in Florida.

Louisiana. W. E. Hinds (August 29): Soybean caterpillars have been seen only in a few instances and then not in numbers to strip the foliage, even on their favorite varieties. No serious damage is expected. Some stripping started at Jeanerette about August 15, also around New Iberia. No eggs were found at that time.

GREEN CLOVER WORM (Plathypena scabra Fab.)

North Carolina. W. A. Thomas (September 22): A light infestation was observed in soybeans in Pamlico and Columbus Counties on September 8. No appreciable damage was being done. Specimens of this insect and what appeared to be the fall armyworm (Laphygma frugiperda S. and A.) are associated in defoliating soybeans grown for seed.

South Carolina. W. C. Nettles (September 19): The green clover worm is reported to be defoliating soybeans in at least one locality in the eastern part of Dorchester County.

F R U I T I N S E C T S

APPLE

CODLING MOTH (Carpocapsa pomonella L.)

South Carolina. O. L. Cartwright (September 19): Injury to apples by the third brood is very prevalent at Clemson College.

Ohio. T. H. Parks (September 25): The codling moth is very serious again in Lawrence County, in southern Ohio. Seven cover sprays have failed to control it; and worm entrances were abundant during August and September owing to a rather heavy third brood of larvae. Elsewhere in the State the insect is not so numerous but populations are increasing, even where extra early sprays had been applied.

Kentucky. W. A. Price (September 25): The codling moth is very abundant.

Michigan. R. Hutson (September 20): The codling moth is moderately abundant.

Missouri. L. Haseman (September 24): Late worms are scattered over the entire State. A few moths are still emerging and young worms are entering fruit. Less abundant than for several years.

Nebraska. M. H. Swenk (September 20): The codling moth is moderately abundant.

Kansas. H. R. Bryson (September 26): On August 28 workers in northeastern Kansas reported an overlapping of second-brood and third-brood moths. Moths were abundant but damage was comparatively light.

Texas. W. L. Owen (September 8): Fewer wormy apples than ever before are reported from the vicinity of Fort Davis. The owner of a large commercial orchard estimates that not more than one apple in 500 is infested.

Washington. E. J. Newcomer (September 21): Continued hot weather up to September 6, together with the early season, resulted in an unusually large third brood in Yakima Valley. The peak of this brood came the last week of August, and began to decline noticeably early in September, although the weather remained hot. This caused a heavy attack by late worms, which in many cases more than offset the earlier light infestation. Some orchards were sprayed 10 or 12 times during the season.

FLAT-HEADED APPLE TREE BORER (Chrysobothris femorata Oliv.)

Indiana. J. J. Davis (October 2): The flat-headed borer has been unusually abundant in and destructive to apple and maple, especially apple, in the northern half of the State.

Nebraska. M. H. Swenk (September 20): The flat-headed apple tree borer has been abundant in young apple trees in Fillmore County.

PEACH

ORIENTAL FRUIT MOTH (Grapholitha molesta Busck)

Connecticut. P. Garman (September 24): In New Haven County larvae remained in peach twigs until late and will hibernate without entering fruit. There is some increase in infestation in apples and quinces this year, but it has not been particularly marked.

South Carolina. O. L. Cartwright (September 19): Adults are being taken in bait pans in apple orchards at Clemson College. Peach fruits are gone.

Georgia. O. I. Snapp (September 20): Some larvae have already entered hibernation in Fort Valley.

Ohio. T. H. Parks (September 25): Injury from larvae in peaches and quinces is much less severe than during former years.

PEACH BORER (Aegeria exitiosa Say)

Georgia. O. I. Snapp (September 20): The peak of moth emergence in Fort Valley occurred on September 16, which is about normal. The infestation is of average intensity. The dipterous parasite Anthrax lateralis Say is beginning to emerge.

PLUM CURCULIO (Conotrachelus nenuphar Hbst.)

Georgia. O. I. Snapp (September 20): Some growers in Fort Valley have made after-harvest applications of arsenical dust to reduce the number of adults before they enter hibernation. The infestation is heavier than that of an average year. The dipterous parasite Myiophasia globosa Towns. was fairly abundant this year, many adults being on wing about August 27.

SAN JOSE SCALE (Aspidiotus perniciosus Comst.)

Georgia. O. I. Snapp (September 20): The San Jose scale increased rapidly on peach trees in Fort Valley during September. The infestation is now fairly heavy in a number of orchards. A summer application of oil emulsion has been used in several orchards to hold the scale in check until the dormant spraying season.

GRAPE

GRAPE LEAFHOPPER (Erythroneura comes Say)

Nebraska. M. H. Swenk (September 21): Reports of attack by the grape

leafhopper on grape and woodbine vines continued to be received up to September 1.

Colorado. G. M. List (September 20): The grape leafhopper has been very abundant on grape and woodbine. Many of the latter, where grown for ornamental purposes, are nearly defoliated.

RED-BANDED THRIPS (Selenothrips rubrocinctus Giard)

Florida. J. R. Watson (September 24): Grapes that had been severely attacked by the red-banded thrips were received from West Palm Beach. The thrips caused a russeting of the rind very similar to their work on guavas.

PECAN

FALL WEBWORM (Hyphantria cunea Drury)

North and South Carolina. W. A. Thomas (September 15): The second generation is much more numerous along the Coastal Plain on pecan, persimmon, and forest trees than at any time during the past 10 years. Hardly a pecan tree has escaped injury, and many are already completely defoliated. In some instances, the green husks on the nuts have been partly eaten off.

Mississippi. D. W. Grimes (September 20): Fall webworms are general around Durant, where the injury to pecan ranges from moderate to severe.

Louisiana. T. E. Snyder (September 7): The fall webworm is quite abundant on persimmon trees between New Orleans and Alexandria.

PECAN WEEVIL (Curculio caryae Horn)

Georgia. T. L. Bissell (September 26): The pecan weevil began laying eggs about September 2 at Milner, and small numbers were still active on September 25. Weevils have been more abundant than in any year since 1930.

CITRUS

GREEN CITRUS APHID (Aphis spiraecola Patch)

Puerto Rico. G. N. Wolcott (August 13): Citrus shoots, the leaves of which have been curled by the green citrus aphid, were collected yesterday near Comerio. This insect seems to be increasingly common and its injury is noted widely, not only in the recognized citrus districts, but also, as in the present instance, miles from the nearest known commercial grove.

CITRUS WHITEFLY (Dialeurodes citri Riley and How.)

Florida. J. R. Watson (September 24): The citrus whitefly is very abundant. Heavy flight of adults now noted in northern Florida.

Georgia. O. I. Snapp (September 20): As usual, this insect is very abundant in Fort Valley and is causing considerable damage to ornamental plants.

Alabama. J. M. Robinson (September 21): The whitefly is more abundant over the State than it has been in years. The general infestation might be called an outbreak.

Mississippi. G. L. Bond (September 18): Moderately abundant in Jackson County. A few heavy infestations have been noticed recently and the whitefly is present on most citrus hedge plants.

COTTONY-CUSHION SCALE (Icerya purchasi Mask.)

Puerto Rico. G. N. Wolcott (September 20): Since the initial outbreak of the cottony-cushion scale in San Juan and the Bayamon citrus district in 1932, no new records of its dispersion in Puerto Rico had been received up to a few weeks ago. Late this spring one new occurrence was noted near Vega Baja, and more recently another has been reported at some distance from the first, both of these presumably being due to natural dispersion, as they are west or southwest of the main areas of infestation. Within the last few days the scale has been reported in a small grove at Humacao, in the eastern part of the Island, undoubtedly due to the bringing in of infested trees and not to natural factors. In the main areas of infestation the scale has not been abundant this spring and a survey made on September 18 indicated that it was very scarce generally. In one instance, an infestation has entirely disappeared, and in most instances only a few scattered individuals can be found. Wherever small mass infestations still exist, one can find traces of the Australian ladybeetle (Rodolia cardinalis Muls.), and because of recent rainy weather over half of the scales have been killed by the fungus Spicaria javanica.

FULLER'S ROSE BEETLE (Asynonychus godmani Crotch)

Alabama. H. P. Loding (September 28): Fuller's rose beetles are becoming increasingly abundant in Satsuma orange groves at Mobile, where they are damaging the foliage.

CITRUS RUST MITE (Phyllocoptes oleivorus Ashm.)

Florida. J. R. Watson (September 24): Dry weather during the last few days of August and the first of September caused an increased number of rust mites in the orange groves for this time of the year.

FIG

THREE-LINED FIG BORER (Ptychodes trilineatus L.)

Alabama. H. P. Loding (September 28): Many old fig trees in Mobile have been killed this year by the larvae. The infestation is general.

Louisiana. W. E. Hinds (August 29): The fig borer has caused a number of complaints, especially in the area about Opelousas. Larvae of all sizes are working in the branches.

COCONUT

A RHINOCEROS BEETLE (Strategus quadrifoveatus Beauv.)

Puerto Rico. G. N. Wolcott (September 11): Within the last few weeks three complaints of damage to palm trees caused by this beetle have been received, two from the coast, Loiza and Quebradillas, and one from the mountains, at Aibonito, where ornamental palms were attacked. Presumably this is one result of the hurricane of San Ciprian 2 years ago, for the coconut palms destroyed at that time (in some instances 90 percent of the trees in extensive groves) require almost a year before becoming sufficiently rotten to furnish suitable food for the immature stages of the beetles, and the development of the grubs requires another year, which brings an outbreak of the beetles 2 years after the hurricane.

T R U C K - C R O P I N S E C T S

BLISTER BEETLES (Meloidae)

Kentucky. W. A. Price (September 25): Blister beetles are common and destructive generally over the State, feeding on late potatoes, cabbage, tomatoes, and dahlias.

North Dakota. J. A. Munro (September 22): The State Forester reported that Chinese elm trees in New Salem were defoliated by the ash-gray blister beetle (Macrobasis unicolor Kby.) during the past season.

F. D. Butcher observed this blister beetle attacking Chinese elm at Dickinson in 1933.

FALSE CHINCH BUG (Nysius ericae Schill.)

Wisconsin. E. L. Chambers (September 26): The false chinch bug has been unusually abundant in the southern half of the State this summer and has been damaging strawberries.

POTATO AND TOMATO

A PYRALID (Pachyzancla periusalis Walk.)

Georgia. T. L. Bissell (September 1): Larvae have been noted since July 27 at the Georgia Experiment Station on tomato plants growing thickly in pots in the greenhouse and just outside. By August 16 they had spread to tomato plants in an open hotbed. Today I found a few larvae on a tomato plant in the garden near the greenhouse. Eggplants in this garden and in a distant field are heavily infested. Tomatoes in this field are free. A few larvae were observed on horsenettle near eggplants.

A MIRID (Engytatus geniculatus Rout.)

California. H. J. Ryan (August 30): A plant bug identified as E. geniculatus was found attacking tomato plants on several properties in the San Fernando Valley. This was first taken in southern California in Orange County in 1931.

LEAF-FOOTED BUG (Leptoglossus phyllopus L.)

North Carolina. W. A. Thomas (September 15): The nymphs are very abundant on potato and tomato in some fields near Chadbourn. When large numbers attack a potato stalk they cause it to wilt down in one day. The tops of some plants have already been killed.

Georgia. T. L. Bissell (September 26): This bug is slightly more abundant this summer than usual at Experiment. Adults and young have been found on elderberry, cotton, Cephalanthus, cowpeas, and jimsonweed. L. oppositus Say also was observed on cowpeas.

TOMATO PSYLLID (Paratrioza cockerelli Sulc.)

Utah. G. F. Knowlton (September 5): Potato psyllids have been abundant enough to cause damage in some fields in various parts of northern Utah.

Colorado. G. M. List (September 20): The tomato psyllid has been moderately abundant on potatoes and tomatoes in a number of localities. In Mesa County, where the injury to early potatoes is usually quite severe, the infestation was not as heavy as during the past two seasons. Untreated early potatoes in Weld and Morgan Counties suffered a loss of probably 20 percent. Late potatoes in these sections are showing some injury, and there will be some loss in a number of other localities. The infestation on tomatoes in northern Colorado has been rather severe, the crop being materially reduced and the quality much lowered.

BEANS

MEXICAN BEAN BEETLE (Epilachna corrupta Muls.)

Vermont. H. L. Bailey (August 29): Mexican bean beetle moderately abundant. Reported for the first time in Orange and Windsor Counties.

Ohio. T. H. Parks (September 25): Injury has been very severe in many localities, including the lakeshore area.

Indiana. J. J. Davis (October 2): The Mexican bean beetle was abundant on beans at Indianapolis and Merom early in September. About the middle of September we observed soybeans near Greencastle heavily infested and there were no garden beans nearby.

Illinois. W. P. Flint (September): The Mexican bean beetle has been more abundant throughout the east-central part of the State than in 1933.

Alabama. J. M. Robinson (September 21): Mexican bean beetles have been very abundant at Auburn and in the central and northern parts of the State throughout the season.

Mississippi. C. Lyle and assistants (September 19): Specimens of the Mexican bean beetle were sent to this office on August 24 from Webster County for the first time. They were reported as seriously injuring garden beans. The beetle has also been reported as very abundant in the eastern half of Lowndes and Monroe Counties and at Hattiesburg, in Forrest County.

BANDED CUCUMBER BEETLE (Diabrotica balteata Lec.)

Alabama. J. M. Robinson (September 21): The banded bean beetle is more abundant in central and southern Alabama than it has been during the past 6 years.

PEAS

PEA MOTH (Laspeyresia nigricana Steph.)

Washington. D. J. Caffrey (September 29): Specimens of lepidopterous larvae were collected on July 14 by J. W. Stanton, of Bellingham, who states that this insect has caused the farmers of the Bellingham district and Skagit County a considerable loss this year in peas grown for canning. (Det. by C. Heinrich)

CABBAGE

IMPORTED CABBAGE WORM (Ascia rapae L.)

Ohio. T. H. Parks (September 25): Larvae of the imported cabbage worm have seriously injured cabbage.

Wisconsin. E. L. Chambers (September 26): More damage from cabbage worms has been experienced in the southeastern part of the State this fall than for many years. Many fields were injured so severely that they could not meet standard market requirements in Dane County.

CABBAGE WEBWORM (Hellula undalis Fab.)

North Carolina. W. A. Thomas (September 20): The cabbage webworm is still one of the principal limiting factors in obtaining a stand of collards and related plants in the Chadbourn area at this season of the year. On larger plants the larvae bore into the stalks and leaf petioles, causing the buds to die and weakening the leaf stems, causing them to break off.

CROSS-STRIPED CABBAGE WORM (Evergestis rimosalis Guen.)

North Carolina. W. A. Thomas (September): Larvae of the cross-striped cabbage worm are much more numerous on collards in the Chadbourn district this year than usual. Ordinarily an occasional specimen is seen, but this season they are almost as abundant in some fields as is the common cabbage worm.

CABBAGE LOOPER (Autographa brassicae Riley)

Missouri. L. Haseman (September 24): Cabbage loopers are more abundant and more destructive to late cabbage than I have ever seen them.

HARLEQUIN BUG (Murgantia histrionica Hahn)

North Carolina. W. A. Thomas (September 20): The harlequin cabbage bug continues to be a major pest of collards in home gardens of the Chadbourn area. In some gardens most of this crop has already been killed.

Iowa. H. E. Jaques (September 22): The harlequin bug is making its first appearance for the season in southeastern Iowa. Occasional specimens have been taken.

Kansas. H. R. Bryson (August 28): The harlequin bug is reported to be quite abundant on remnant cabbage plants in gardens in northeastern Kansas. These bugs were observed feeding on turnip at Manhattan.

California. D. J. Caffrey (October 4): Living specimens of the harlequin bug were received from Decoto, Alameda County, where the insect was seriously damaging turnips and squash.

MELONS

PICKLE WORM (Diaphania nitidalis Stoll.)

Connecticut. W. E. Britton (September 24): Larvae were received from Guilford on September 5, in summer crookneck squash. In 1931 this

insect occurred at several points in Connecticut near the coast. In the past 34 years 1931 and 1934 have been the only two seasons when the insect has been observed by members of the staff or brought to the attention of the entomology department.

South Carolina. W. J. Reid, Jr. (September 24): D. hyalinata L. and D. nitidalis are as usual very destructive to fall plantings of cucurbits in the Charleston area. As a result, local growers have practically discontinued attempts to grow cucurbits during the fall months. Larvae of both species were first observed this season feeding in small numbers on the remains of a spring crop of squash on July 10. No signs of the insects had been noted on this planting earlier. They had appeared in an experimental fall planting of cucurbits at the South Carolina Truck Experiment Station on September 7, 10 days after the plants came up. At that time, 29 percent of an acre planting of squash, 8 percent of a half-acre planting of cucumbers, and 2 percent of a half-acre planting of cantaloups were infested with the two species. By September 20 the infestation had increased as follows: Squash, 98 percent infested plants; cucumbers, 96 percent; and cantaloups, 66 percent. The squash showed an average of 8.2 worms per plant, the cucumbers 5.6, and the cantaloups 1.2. These three crops are of the same age. By September 24, when the fruit was beginning to appear, many of the squash plants were dying as a result of the worm feeding.

MELON APHID (Aphis gossypii Glov.)

Kansas. H. R. Bryson (September 26): Melon aphids were reported to be injurious in late melons and cucumbers at Manhattan and in other localities.

Mississippi. C. Lyle (September 19): A heavy infestation on watermelon vines at Jackson, in Hinds County, was reported on August 24. An infestation at State College has also been reported.

SQUASH

SQUASH BUG (Anasa tristis DeG.)

Maryland. E. N. Cory (September 26): The squash bug has been reported from various parts of the State.

Wisconsin. E. L. Chambers (September): The squash bug has been more abundant than usual all over the State this summer.

Utah. G. F. Knowlton (September 9): Numerous reports of squash bug damage to squash have been received throughout the season from various localities in the State.

STRAWBERRY

STRAWBERRY ROOT APHID (Aphis forbesi Weed)

Colorado. G. M. List (September 20): The strawberry root aphid has seriously damaged several plantings of everbearing strawberries in the eastern part of the State.

PEPPER

A WEEVIL (Collabismodes cubae Boh.)

Florida. J. A. Hyslop (September 29): A note on a cryptorhynchid weevil, Euxenodes sp., attacking peppers in Dade County, Fla., appeared in the Insect Pest Survey Bulletin, vol. 14, no. 1, p. 18, dated March 1934. Recent information has brought out the fact that the specimens in Florida are identical with a Cuban species, E. cubae Boh., now referred to the above genus.

BEETS

GREENHOUSE LEAF TIER (Phlyctaenia rubigalis Guen.)

California. R. E. Campbell and J. C. Elmore (September 5): Three hundred acres of sugar beets in Orange County are heavily infested with the celery leaf tier. Serious damage was first reported on August 16. In many fields the leaves have been skeletonized, leaving little more than the midrib. Feeding continues on the new shoots and on the stems at the crown. The yield in some fields is estimated at 20 tons per acre, but the sugar content is so low that the beets are hardly worth harvesting. With the infestation so heavy, it is doubtful whether additional foliage can be produced and the sugar content increased. Adults are so numerous that they fly up in clouds when disturbed. Larvae are feeding also on pepper plants. It is interesting to note that the infestations occur in the area where 7,000 acres of celery was grown about 20 years ago, the abandonment of which was partly due to damage by the leaf tier. Many parasites were observed.

BEET LEAFHOPPER (Eutettix tenellus Bak.)

Utah. G. F. Knowlton (September 14): Beet leafhoppers were so abundant and active in the foothills 4 miles northwest of Dolomite as to cause annoyance to hunters in the area. The leafhoppers caused irritation to hands and arms by biting. (September 22): Beet leafhoppers are still very abundant in small areas of the northern Utah breeding grounds, in which Russian-thistle and other favored host plants are still in good condition for feeding.

F O R E S T A N D S H A D E - T R E E I N S E C T S

SATIN MOTH (Stilpnotia salicis L.)

Oregon. F. C. Craighead (August): J. A. Beal reports that the satin moth has been found recently doing serious damage to introduced poplar trees, Populus alba, in Oregon. Partly defoliated trees were observed near Gervais, north of Salem, and again farther south near Albany. Old pupal cases were very numerous, hatched egg masses were abundant, and in some instances fully half the foliage had been eaten from the lower part of the tree. This injury was reported by one owner to have been present for 2 or 3 years. Early in July two adults of this species were taken in Portland, so far as known the first authentic record of its occurrence there.

FOREST TENT CATERPILLAR (Malacosoma disstria Hbn.)

Wisconsin. E. L. Chambers (September 26): Large tracts of willow have been defoliated by enormous armies of these caterpillars in the swamp lands of the State. They also attack other deciduous trees.

FALL WEBWORM (Hyphantria cunea Drury)

Colorado. G. M. List (September 20): The fall webworm is quite abundant in a number of mountain valleys. The injury is especially severe on narrowleaf cottonwood. Most of these trees along the Arkansas River, both above and below Salida, have been largely defoliated.

California. E. O. Essig (September 9): Webs are abundant on terminals of young madrona and other trees in Humboldt and Mendocino Counties. This is the most noticeable outbreak ever observed by the writer.

F. H. Wymore (September 20): This pest is very abundant on willow and black walnut trees along streams in the Sacramento Valley.

FLAT-HEADED APPLE TREE BORER (Chrysobothris femorata Oliv.)

Ohio. E. W. Mendenhall (September 15): The flat-headed apple tree borer is abundant in dogwood and maples this year.

Michigan. E. I. McDaniel (September 25): The flat-headed borer was reported from Ypsilanti, Jackson, Ann Arbor, Flint, Marcellus, and Holland last week. In most instances the injury was confined to maples, although various other trees have been attacked.

WALKINGSTICK (Diapheromera femorata Say)

Michigan. E. I. McDaniel (September 25): The walkingstick has appeared in Ogemaw and Iosco Counties. In the vicinity of West Branch and Tawas City red oaks are practically defoliated. The insect occurs on several kinds of trees but confines its feeding entirely to red oaks. It has

been common in this region for the past 5 or 6 years.

ASH

A BARK BEETLE (Leperisinus aculeatus Say)

New Hampshire. E. P. Felt (September 27): Ash timber beetles (L. aculeatus) were so abundant in ash in one locality that they caused considerable annoyance in a dwelling, as the beetles emerged from firewood stored in the cellar.

CARPENTER WORM (Prionoxystus robiniae Peck)

North Dakota. J. A. Munro (September 24): Several reports of infestation, the most interesting of which are on oak at Fargo, Cass County, and on various species of poplar at Mandan, Morton County, have been received.

BEECH

BEECH SCALE (Cryptococcus fagi Baer.)

Connecticut. W. E. Britton (September 20): A moderate infestation of the beech scale occurs on trees near the Mark Twain Library and on private premises northward to Keeney Park in Hartford, a distance of more than a mile.

BIRCH

BIRCH SKELETONIZER (Bucculatrix canadensisella Chamb.)

Massachusetts and New Hampshire. J. V. Schaffner, Jr. (September 24): Serious infestations of the birch leaf skeletonizer are very noticeable in many localities through eastern Massachusetts and southern New Hampshire. Much injury in several towns in the vicinity of Phillips, Maine, was noted on September 16.

BRONZE BIRCH BORER (Agrilus anxius Gory)

Michigan. E. I. McDaniel (September 25): The bronze birch borer has been reported from Muskegon, Holland, Manistee, and Ludington. Trees in these sections have suffered particularly from the drought. Most of the infested trees are on natural stands and are largely mature specimens.

Wisconsin. E. L. Chambers (September): Birch tree plantings throughout the State are heavily infested and many trees are being killed. Cutleaf birches in open ornamental plantings are rapidly succumbing.

ELM

AN APHID (Tuberculatus ulmifolii Monell)

Iowa. G. C. Decker (August 30): For the past 3 weeks we have received numerous reports and inquiries from all sections of the State relative to the abnormal abundance of elm leaf aphids. Practically all of the elm trees that I have seen throughout the State have the leaves completely covered with honeydew.

Nebraska. M. H. Swenk (August 15-September 20): The outstanding pest of the period here covered was the elm leaf aphid. From August 27 to September 12, from Lancaster County north to Butler, Cuming, Platte, and Boone Counties, and northwest to Rock County, many complaints were received concerning the abundance of this aphid, which produced honeydew in such profusion that it dripped from the leaves continuously, wetting houses, fences, walks, and vegetation under the trees. Motorists, especially, complained that it covered their windshields and cars and attracted great numbers of flies.

FIR

AN APHID (Dreyfusia piceae Ratz.)

Vermont. H. L. Bailey (August 29): The balsam woolly aphid has been reported from Cabot, Mount Holly, and vicinity. A heavy infestation at Warren was observed on August 28. Many trees were dead.

HEMLOCK

A SAWFLY (Tenthredinidae)

Oregon. F. C. Craighead (August): J. A. Beal reports that an undetermined sawfly has recently been defoliating hemlock stands in western Oregon along the Cascade Range. Heavy defoliation of western hemlock occurred over an area of approximately 10,000 acres and lighter infestation covered about 50,000 acres. Feeding for the year is about over and the larvae are rapidly constructing their cocoons. Hymenopterous parasites are busy searching out and parasitizing the cocoons. Occasional sawfly adults are now appearing, and emerging parasites are very abundant. It is not believed that the defoliation this year will result in either heavy or widespread losses.

HICKORY

HICKORY BARK BEETLE (Scolytus quadrispinosus Say)

Connecticut. W. E. Britton (September 24): Specimens from South Lyme were received on September 4, with a statement that several trees have been injured by the hickory bark beetle and show many exit holes in trunks and branches.

Michigan. E. I. McDaniel (September 25): This insect has been particularly destructive for the last 4 or 5 years, and there are very few sound hickory trees left in the State. The attack has been aggravated by the prolonged drought, which has weakened the trees so that they are very susceptible to attack. The most recent outbreak occurred just out of Detroit. Here a number of large hickories in a stand of hardwoods were attacked and practically every tree has died within the last few weeks.

OAK

RED-HUMPED OAK WORM (Symmerista albifrons A. and S.)

Michigan. E. I. McDaniel (September 25): The red-humped oak worm has been sent in from Grayling, and also from the vicinity of Traverse City. In both instances the worms were so thick on the trees that the trees were being practically defoliated. The infestation is rather extensive and covers the area between Grayling and Traverse City. Both red and white oak are attacked.

OAK TWIG PRUNER (Hypermallus villosus Fab.)

Michigan. E. I. McDaniel (September 25): The oak twig pruner has been particularly destructive to red oak and white oak. It is distributed over the State, both in the Upper and Lower Peninsulas. However, the most spectacular work is being done in the vicinity of Grayling, West Branch, Traverse City, and Tawas City. In some places the accumulations of fallen twigs are over 2 feet deep.

TWO-LINED CHESTNUT BORER (Agrilus bilineatus Web.)

New York and New Jersey. E. P. Felt (September 27): The two-lined chestnut borer is extremely abundant in oaks on Long Island, particularly in the vicinity of Manhasset, where many trees are dead or dying, probably due primarily to a series of dry summers and to defoliations by canker worms. The work of this insect was also reported from Upper Montclair, N.J.

OAK PILL GALL (Cincticornia pilulae Walsh)

Connecticut and Pennsylvania. E. P. Felt (September 27): The oak pill gall has been unusually abundant, inquiries coming from Washington and Wilton, Conn., and from Buck Hill Falls, Pa.

PINE

WHITE-PINE WEEVIL (Pissodes strobi Peck)

Ohio. E. W. Mendenhall (September 7): The white-pine weevil is quite injurious on pines in a nursery near Newark.

Michigan. E. I. McDaniel (September 25): The white-pine weevil is estab-

lished in a planting of red pines near Grayling and Central Lake. The planting is from 7 to 11 years old and practically every tree is infested.

A PINE ENGRAVER (Ips calligraphus Germ.)

Michigan. E. I. McDaniel (September 25): The coarse-writing bark beetle (I. calligraphus) has been taken from pine in the upper part of the Lower Peninsula. This infestation follows an attack of sawfly in practically every instance in and about Kalkaska and Grayling. Many jack pines are being killed.

PINE BARK APHID (Pineus strobi Htg.)

Maryland. E. N. Cory (September 24): The pine bark louse is attacking pine trees at Frederick.

PINE SAWFLIES (Neodiprion spp.)

Michigan. E. I. McDaniel (September 25): Outbreaks of the Abbott's sawfly (N. pinetum Nort.) has been reported from various parts of Michigan. It attacks a number of different pines, but so far seems to be more destructive to Norway pine.

Maryland. E. N. Cory (September 20): Larvae of N. pinetum and N. leconti Fitch have been found attacking Mugho pine in Princess Anne County.

PINE LEAF SCALE (Chionaspis pinifoliae Fitch)

Ohio. E. W. Mendenhall (September 27): The pine leaf scale is very abundant on Scotch and Mugho pines and on spruces in nurseries near Lancaster, Fairfield County.

Nebraska. M. H. Swenk (September 20): A Dawson County correspondent reported that spruce trees amply provided with water this summer have been killed by the pine leaf scale.

Utah. G. F. Knowlton (September 15): Native pines along Logan Canyon have been damaged to some extent by heavy infestations. Damage to other conifers was also noted, but usually infestations were less severe on spruce and fir.

SPRUCE

SPRUCE BUDWORM (Harmologa fumiferana Clem.)

Michigan. E. I. McDaniel (September 25): The spruce budworm is practically all over the Upper Peninsula. Trees suffering from attack are evident from Brimley to Higgins Lake, in the Lower Peninsula. This insect has not confined its activity to spruce but has done considerable damage to jack pine as well.

WALNUT

WALNUT CATERPILLAR (Datana integerrima G. and R.)

Wisconsin. E. L. Chambers (September 26): The walnut caterpillar has been reported as being more serious this fall than usual throughout the southern half of the State.

WILLOW

WILLOW FLEA WEEVIL (Orchestes rufipes Lec.)

Maine. H. B. Peirson (September): The willow flea weevil was reported on August 21 to be very abundant on Salix pentandra.

INSECTS AFFECTING GREENHOUSE AND ORNAMENTAL PLANTS

AZALEA

AZALEA SCALE (Eriococcus azaleae Comst.)

Alabama. H. P. Loding (September 28): The azalea mealybug is becoming a major pest on cultivated azaleas at Mobile.

MULBERRY WHITEFLY (Tetraleurodes mori Quaint.)

New York. E. P. Felt (September 27): The mulberry whitefly was quite abundant on azalea at Westbury, L.I.

FUCHSIA

A FLEA BEETLE (Haltica litigata Fall.)

Washington, D.C. C. A. Weigel (September 4): An unusual infestation of H. litigata attacking fuchsia was encountered this week in greenhouses. The plants, of which there were several hundred, are being grown in 6-inch pots. The foliage was almost completely pitted and spotted as a result of the feeding of this beetle. (Det. by H. S. Barber)

GLADIOLUS

GLADIOLUS THRIPS (Taeniothrips gladioli M. and S.)

General. C. F. Doucette (September): The gladiolus thrips has extended its range of distribution during the season and has seriously affected the larger gladiolus-producing sections of Idaho, Montana, Washington, Oregon, and California.

Michigan. E. I. McDaniel (September 25): Despite dry weather, the gladiolus thrips has caused no loss where corms had been treated.

Wisconsin. E. L. Chambers (September 26): The gladiolus thrips, while quite abundant throughout the State on plantings not treated before planting, is less abundant than last year.

Alabama. H. P. Loding (September 28): The gladiolus thrips is appearing in nearly all plantings over Mobile County.

Colorado. G. M. List (September 20): The gladiolus thrips was found in the State last year for the first time. The spread this season seems to have been quite rapid, as the infestation is quite general in most sections of the eastern slope in the State. Many plantings have been so seriously injured that few flowers have been cut.

Washington. R. Latta (September): Only a few minor infestations were found in the Puget Sound district last year, but this year the insect has been reported in numbers from all gladiolus-growing sections of the State, including Spokane, Yakima, and Wenatchee, east of the Cascade Mountains, and throughout the Puget Sound district west of the divide. Considerable damage was reported by many commercial and amateur planters.

Oregon. R. Latta (September): T. gladioli was reported as damaging gladiolus at Medford. This is a new record.

California. M. L. Jones (August 27): The counties of Monterey, Alameda, San Francisco, Santa Cruz, Sacramento, San Mateo, Marin, Sonoma, Napa, and the extreme northern portion of Santa Barbara County were surveyed and the gladiolus thrips was found in each county. Because of the lightness of the infestation in some areas, there is no doubt that several light infestations were missed. However, enough infested properties were found to indicate the distribution in this part of the State. Of the 70 gladiolus plantings examined, 41 were infested.

OLEANDER

POLKA DOT WASP MOTH (Syntomeida epilais Walk.)

Florida. J. R. Watson (September 24): The oleander caterpillar, the larva of the polka dot wasp moth, has appeared in Gainesville. This insect is apparently rapidly spreading northward. It may extend as far north as oleanders can grow out of doors.

ROSE

CURLED ROSE SAWFLY (Emphytus cinctipes Nort.)

Maine. H. B. Peirson (September 14): The curled rose sawfly is completely defoliating roses in places on Mount Desert Island.

INSECTS AFFECTING MAN AND DOMESTIC ANIMALS

MAN

HOUSE CRICKET (Gryllus domesticus L.)

Maine. H. B. Peirson (August 6): A heavy infestation has been reported from Biddeford, where the crickets are invading houses located near a dump. Clothing and house furnishings are being damaged.

Massachusetts. C. T. Brues (October 1): I have observed an epidemic of G. domesticus in a part of Boston where four or five houses are overrun. The tenants moved out on account of the continuous chirping at night. Clothing and rugs were ruined by having holes eaten in them.

J. V. Schaffner, Jr. (September 25): A complaint of crickets in a house at Malden was investigated on September 21. A public dump covering an area about 400 feet in diameter was found, where waste materials from houses and stores are placed. From inquiries made in the vicinity, it was learned that all houses in close proximity to this dump were infested. On the other side of the dump is a small brook and a newly built section. Occupants of houses there were troubled also. The dump is now covered with branches recently trimmed from shade trees. Although but few crickets were noted moving about, hundreds were seen when any of the refuse was moved.

Wisconsin. E. L. Chambers (September 26): Residents of the Humboldt Park section of Milwaukee have experienced a plague of crickets never before known to that city. For many blocks millions of these crickets, apparently hatching in a 6-acre swamp and city dump near the park, invaded homes, destroying clothing, rugs, and food.

PUSS CATERPILLAR (Megalopyge opercularis S. and A.)

Mississippi. C. Lyle (September 19): Specimens have been received recently from Houston, in Chickasaw County, and from Lake, in Scott County, the collectors in each case reporting that severe stings had been inflicted. These caterpillars are abundant at present on a sweetgum tree at State College.

BOXELDER BUG (Leptocoris trivittatus Say)

Indiana. J. J. Davis (October 2): The boxelder bug has been the outstanding shade tree insect in the State. Reports of abundance have come in daily. Although most of the reports have come from the northern half of the State, some have been received from as far south as Aurora, on the eastern border of the State, and from Vincennes on the west.

Wisconsin. E. L. Chambers (September 26): The population has been building up for the past few summers until the infestations in the vicinity of seed-bearing trees almost everywhere in the State are practically unbearable, and many cities and villages are removing the trees, some even attempting to outlaw the boxelder entirely.

California. A. E. Michelbacher (September 22): At Pleasanton on September 14 the boxelder bug was observed congregating by the thousands on a single tree, the trunk and limbs of which were covered with them.

BLACK WIDOW SPIDER (Latrodectus mactans Fab.)

Nebraska. M. H. Swenk (August 15-September 20): During the summer and fall there have been an unusually large number of reports of the hour-glass spider from western Nebraska. They have been especially numerous in Dawes and Box Butte Counties. In the former county, during the period here covered, three persons have been made seriously ill because of the bites.

Colorado. G. M. List (September 20): Inquiries in regard to the black widow spider have been much more numerous than usual. This may be due partly to the publicity given the spider by various newspapers; however, our own findings indicate that it is much more numerous than usual.

CATTLE

SCREW WORMS (Cochliomyia spp.)

Florida. J. R. Watson (September 24): The screw worm infestation continues to grow in severity, with heavy losses to hogs and cattle. One or two cases have been reported on man. Forty counties are said to be infested, but the northern part of the State is more seriously affected than the southern part.

Georgia. T. L. Bissell (September 26): Numerous cases of infestation of wounds have been found at the experiment station and in Spalding County in September. Mules, hogs, and cattle have been injured. The insect has not heretofore been recognized in this locality.

Alabama. J. M. Robinson (September 21): Central and southern Alabama are moderately infested.

Mississippi. G. L. Bond (September 18): Southern Mississippi is experiencing the worst outbreak this State has ever known. This insect has caused a loss of about 50 percent of the sheep, along with many hogs, cattle, and other animals. Besides the injury to domestic animals, several infestations of human beings have been reported.

K. L. Cockerham (September 3): Reports of severe injury to livestock along the Mississippi coastal plains have been numerous for the past several weeks. Sheep are reported to be more severely attacked than any other livestock.

HORN FLY (Haematobia irritans L.)

Missouri. L. Haseman (September 24): Horn flies have been very abundant and very annoying to cattle during the month.

Colorado. O. G. Babcock (August 27): Horn flies will average about 150 per dairy cow in the valley about Del Norte. They are not quite so numerous about Denver, Berthoud, Longmont, and Fort Collins.

POULTRY

POULTRY MITE (Dermanyssus gallinae L.)

Colorado. O. G. Babcock (August 27): The poultry mite is quite numerous about Del Norte, Fort Collins, and Berthoud, wherever roosts have not been treated.

FOWL TICK (Argas miniatus Koch)

Georgia. W. E. Dove (September 14): A poultry house on a farm in Effingham County was found heavily infested with fowl ticks. As this is the first report of the occurrence of fowl ticks in Georgia, and as the infestation seemed to be local, an attempt is being made to eradicate it. Efforts are being made to determine whether the pest occurs elsewhere in the county.

MONARCH BUTTERFLY (Danaus menippe Fab.)

Maryland. E. M. Cory (October 5): Yesterday I went to Piney Point and marked with a green dye possibly 200 stragglers from the main migratory horde. The main body of the butterflies left Piney Point on the morning of October 2 at about 10 o'clock.